

COMPUTERS BOUND FOR MEDICAL ROLE

Symposium Shows Range of Research the 'Brains' Could Be Used For

By HAROLD M. SCHMECK Jr.

Sophisticated electronic computers may soon come on stage as important actors in the drama of medicine and biological research, according to reports at a symposium last week in Endicott, N. Y.

Methods involving the so-called giant electronic brains are already showing promise in a wide variety of tasks too huge or too tedious to be otherwise possible or worthwhile.

The three-day meeting, which ended Friday, was the second annual symposium sponsored by the International Business Machines Corporation for a selection of the nation's experts in the medical and biological applications of computers.

Variety of Tasks

In pilot studies the machines and related data-processing techniques have been put to such tasks as evaluating the amount of physical disability a person suffered from an illness such as poliomyelitis or tuberculosis; culling out likely candidates for heart disease from a superficially "normal" group of persons; rapid testing of medical hypotheses that might otherwise take years to prove or disprove; testing theoretical "models" designed to explain internal body processes, and studying the nature of the nervous system.

The emphasis throughout the

three days was not on ways of replacing the specialist by a specialized machine, but on ways of using machines to extend and increase the effectiveness of physician and biological scientist alike.

Dr. Joseph E. Schenthal, head of the Hutchinsen Memorial Clinic at the Tulane University Medical School, New Orleans, said he thought medical records stored on tape, or in other ways appropriate to computers, might ultimately replace written records of medical patients altogether.

A person's entire lifetime of "medical history" can be stored on a few feet of magnetic tape, he said.

Hypothesis Tested

Dr. Schenthal and his colleagues in New Orleans wanted to test the hypothesis that it was unlikely that many apparently well and symptom-free women who attended a cancer detection clinic would be found to have underlying conditions that raise the suspicion of heart disease.

Using an I. B. M. 650 computer the hypothesis was tested on 361 women screened during the last year. The computer was instructed to scan their total medical records in search of any of thirty-five subtle abnormalities.

Contrary to the hypothesis, the data search quickly showed ninety-one persons who had such conditions and therefore needed further check by a physician.

Computers are evidently capable of reading and detecting abnormalities in the heart patterns recorded on the electrocardiogram, according to studies at New York University and by the Heart Disease Control Program of the United States Public Health Service.

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